



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

HT-300-CW
Job Sheet 170038

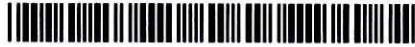


5054546

Part No: HT-300-CW

Job Qty: 1 ea

Part Name: Series 300 Compressor Wash System



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/8/18

Job Tracking No:

Due Date: 3/23/18

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG HT-300-CW Rev6 IPP Rev A 18.01.08 New issue DP Verify DD

Ship Via:

Revision

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	1 pcs		3/23/18	0.00	0.00	Purchasing		
110	Packaging	1 pcs		3/23/18	0.00	0.00	Packaging2		
120	QC	1 pcs		3/23/18	0.00	0.00	QC6		AD 13-08-01
121	Small Fab	1 pcs		3/23/18	0.00	0.00	Small Fab-2		MLL
125	Rework	1 pcs		3/23/18	0.00	0.00	Small Fab		AT 18 0731
130	Packaging	1 pcs		3/23/18	0.00	0.00	Packaging3		MLL
140	QC21-FG	1 Ea		3/23/18	0.00	0.00	QC21		MLL AUG 01 2018

Part Op 100 - Issue P/O: _____ MANUFACTURE HT-300-CW AS PER DWG Supplier: METEC Certificate of conformity is required

121 - 1-Engrave placard RB41011. 2-Transfer drill placard and rivet placard to -68. 3-Install decals -121 and -123 as per DWG sheet 1 4-Install -67 control panel plaque as per DWG sheet 1

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
HT-300-CWP	Series 300 Compressor Wash System	1 Ea (1 ea)	100-Purchasing	
97524A032	Sealing Blind Rivet	4 Ea (4 ea)	121-Small Fab	5089128
HT-300-CW-121	Rinse Label	1 Ea (1 ea)	121-Small Fab	5054949
HT-300-CW-123	Wash Label	1 Ea (1 ea)	121-Small Fab	5054956
HT-300-CW-67	Control Panel Plaque	1 Ea (1 ea)	121-Small Fab	5098072
RB41011	Dart Tooling Placard, Aluminum	1 Ea (1 ea)	121-Small Fab	5021040
HT-300-CW-5	Gas Cylinder Regulator	1 Ea (1 ea)	125-Rework	5097492

PL

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	HT-300-CWP	1	0	0
121-Small Fab	97524A032	4	591	0
	HT-300-CW-121	1	6	0
	HT-300-CW-123	1	6	0
	HT-300-CW-67	1	0	0
	RB41011	1	811	0
125-Rework	HT-300-CW-5	1	5	0

Part Specifications

Specifications could not be found.

Plex 7/31/18 2:18 PM dart.white.jesse



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
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Tel (613) 632-5200

HT-300-CW
Job Sheet 170038



Part No: HT-300-CW

Job Qty: 1 ea

Part Name: Series 300 Compressor Wash System



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/8/18

Job Tracking No:

Due Date: 3/5/18

Created By: Chantal Lavoie

Type: Stock

Description:

Customer: Mirabel Heli Support Inc (CMIRA01)

12 820 Chemain Bélanger #600 Mirabel, QC, J7J 2N8 Canada ph:(450) 476-1111

Note: DWG HT-300-CW Rev6 IPP Rev A 18.01.08 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	1 pcs		3/5/18	0.00	0.00	Purchasing		At 18/03/23
110	Packaging	1 pcs		3/5/18	0.00	0.00	Packaging2		At 18/03/23
120	QC	1 pcs		3/5/18	0.00	0.00	QC6		
130	Packaging	1 pcs		3/5/18	0.00	0.00	Packaging3		
140	QC21-FG	1 Ea		3/5/18	0.00	0.00	QC21	DAS	

Part Op 100 - Issue P/O: 38740 MANUFACTURE HT-300-CW AS PER DWG Supplier: METEC Certificate of conformity is required

JAN 08 2018

9-89

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
100-Purchasing	HT-300-CWP	1	0	0	0

5054540

Part Specifications

Specifications could not be found.

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Reference only

CONTAINER NO. 0001010



Series 300 Compressor Wash System

PART NO: HT – 300 – CW

Serial No/Batch: S054546

Revision:

Operation: Packaging

Change No:

Mfg Date: 03/23/18

Job No: 170038



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038740**

Supplier: MEM001-VC
Metec Metal Technology Inc.
20 Terry Fox Drive PO Box 781
Vankleek Hill
ON
K0B 1R0 Canada
Phone: 613 678 3957
Fax: 613 678 3956

Attention: Walz, Shigi

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO038740

PO Date: 1/8/18

Due Date: 3/5/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

E-MAILED
JAN 08 2018

Items

Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	HT-300-CWP			Series 300 Compressor Wash System	Firmed	3/5/18	3 Ea	0 Ea	3 Ea	\$3,800.00/Ea	\$11,400.00
Line Item Note MAKE AS PER DWG HT-300-CW REV. 6 B170037											
2	HT-300-CWP			Series 300 Compressor Wash System	Firmed	3/5/18	1 Ea	0 Ea	1 Ea	\$3,800.00/Ea	\$3,800.00
Line Item Note MAKE AS PER DWG HT-300-CW REV. 6 B170038											
Grand Total:											\$15,200.00

Order Notes

Procurement Quality Clauses
A005 RIGHT OF ENTRY
A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A016 PERSONNEL QUALIFICATION
A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM
A049 SUPPLIER AWARENESS

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/8/18 1:02 PM dart.lavoie.chantal



20 Terry Fox Drive, Vankleek Hill, Ontario K0B 1R0

Tel. (613) 678-3957 & (613) 678-2782 Fax (613) 678-3956 metec@metec.ca

CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ont.
K6A 1K7

SHIPPED TO:

same

Quantity	Part Number	Part Name	P.O. Number
4	HT-300-CWP	Series 300 Compressor Wash System	38740

MATERIAL: supplied by METEC

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.

A handwritten signature in black ink, appearing to read "Jan Norris", is written over a horizontal line.

Jan Norris

Vankleek Hill, March 23, 2018

DQA: _____ Date: _____

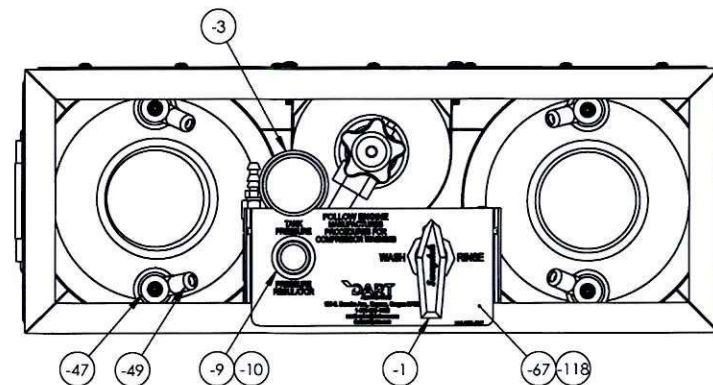
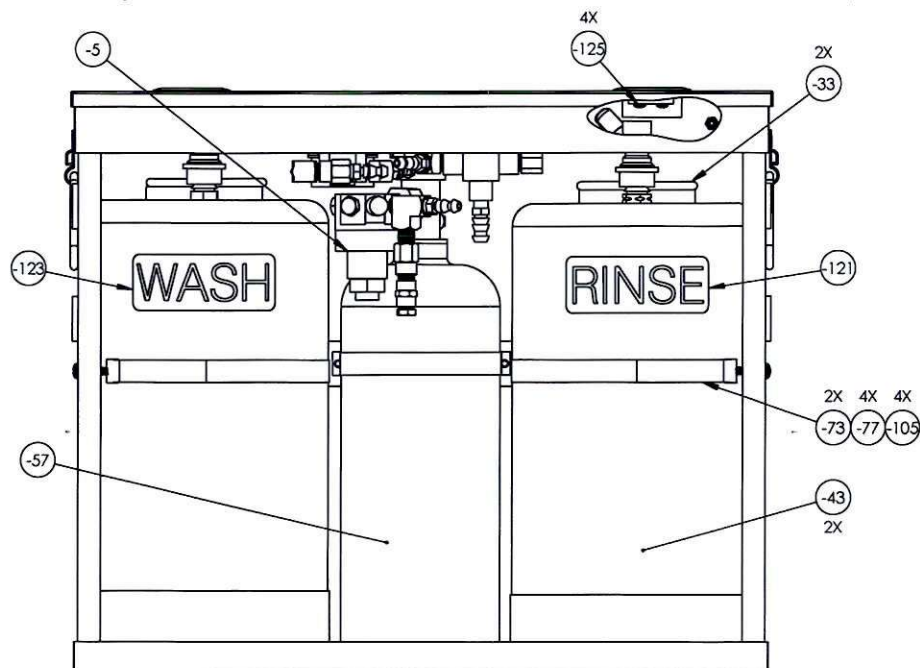
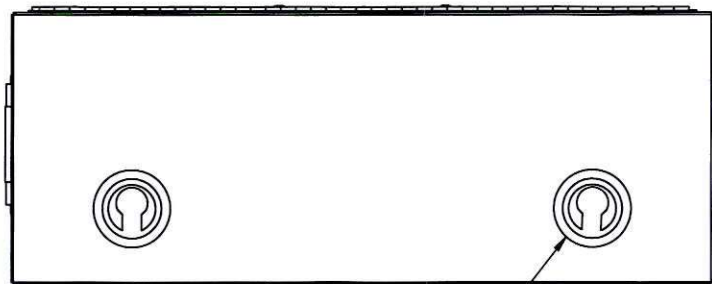
**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

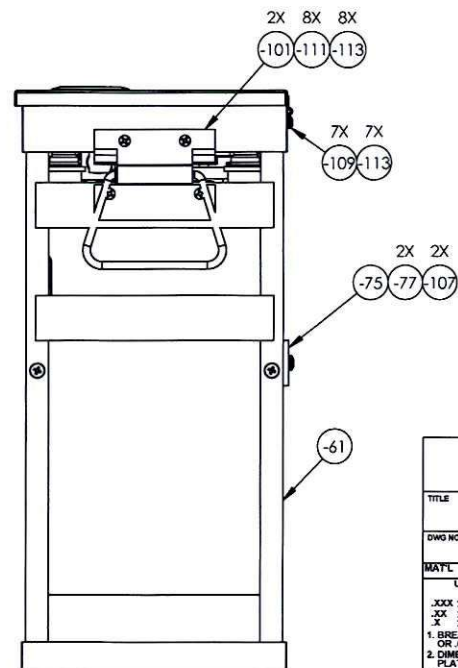
Work Order update only ☐

Work Order: <u>170038</u> Part No. <u>HT-300-CW</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval May 18, 2018				
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval			
- Part number substitutes are recorded on sheet 2				- The part numbers recorded on sheet 2 of this deviation are acceptable alternatives. - The fit, form and function of the engine wash kit will be as originally intended.							
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☒	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

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TOP VIEW WITHOUT LID ASSY.



DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO.	REV 6
HT-300-CW	
MAT'L	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
XXX ± .005	FRACTIONS ± 1/16
.XX ± .01	DECIMAL ± .005
X ± .1	ANGLES ± 5°
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 10/15/2014
SHEET 1 OF 29	

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ASSY QTY	ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			B/O	-1	1	WHITNEY 3-WAY BALL VALVE		NORTHWEST FLUID #B-44XF4	1, 3
			B/O	-3	1	DRY PRESSURE GAUGE 1/8in. BOTTOM MOUNT		2in. 100psi MAX PARAMOUNT SUPPLY #0529826	1, 3
			B/O	-5	1	GAS CYLINDER REGULATOR		FOXX EQUIP. NORGREN #G30G07126	3
			B/O	-7	3	MALE TO FEMALE CHECK VALVE	BRASS	1/4 in. AOP TECH. #410-4M4F-8	3
			B/O	-9	1	REGULATOR	METAL	1/4 in. ARROW SUPPLY #R-162	3
			B/O	-10	1	RING	PLASTIC	ARROW SUPPLY #PK1611 (FOR -9 REGULATOR)	3
			B/O	-11	2	90° ELBOW	BRASS	1/4 in. PACIFIC RUBBER #PAR2202P-4-4	3
			B/O	-13	1	CLOSE NIPPLE	BRASS	1/4 in. PACIFIC RUBBER #PAR21SPNP-4	3
			B/O	-15	1	LIGHT COUPLING	BRASS	1/4 in. PACIFIC RUBBER #PAR207P-4	3
			B/O	-17	1	RUN TEE	BRASS	1/4 in. PACIFIC RUBBER #PAR222SP-4	3
			B/O	-19	1	MALE BRANCH TEE	BRASS	1/4 in. PACIFIC RUBBER #PAR222AP-4	3
			B/O	-21	2	45° ST ELBOW	BRASS	1/4 in. PACIFIC RUBBER #PAR221AP-4-4	3
			B/O	-23	1	HEX HEAD PLUG	BRASS	1/4 NPT PACIFIC RUBBER #PAR218P-2	3
			B/O	-25	4	HEX HEAD PLUG	BRASS	#6 MALE JIC PACIFIC RUBBER #PAR218P-4	3
			B/O	-27	6	MALE PUSH LOCK ADAPTER	BRASS	1/4 X 1/4 PACIFIC RUBBER #NWH PM4-4	3
			B/O	-29	1	MALE PUSH LOCK ADAPTER	BRASS	3/8 X 1/4 PACIFIC RUBBER #NWH PM4-4	3
			B/O	-31	1	CO2 INLET NIPPLE	BRASS	1/4 NPT MALE X 2 in. AIRGAS #CGA-320	3
			B/O	-33	2	TANK CAP O-RING	RUBBER	AOP TECH VITON #5-797VB84-75 FOR TRANS FLUID	1
			B/O	-35	4	O-RING	RUBBER	VITON CHRISTOPHER SEALS #V75-007	5
			B/O	-37	4	O-RING	RUBBER	VITON CHRISTOPHER SEALS #V75-008	4
			B/O	-39	4	O-RING	RUBBER	VITON CHRISTOPHER SEALS #V75-111	5
			B/O	-41	4	O-RING	RUBBER	#V75-013	4
			B/O	-43	2	3 GAL FLUID TANK	S.S.	TOMARK #29748, CONF. W/839567P	1
			B/O	-45	2	WHITE QUICK DISCONNECT		FOXX EQUIPMENT #07C07138	1, 4
			B/O	-47	2	BLACK QUICK DISCONNECT		FOXX EQUIPMENT #07C07139	1, 4
			B/O	-49	4	FERRULE OVER 1/4 LOLA @ DISCONNECTS	S.S.	FOXX EQUIPMENT #06E04-147	1
			B/O	-51	1	DIP TUBE (FOR 3 GAL. TANK)	S.S.	TOMARK INDUSTRIES #39327	5
			B/O	-53	1	GATLOLA HOSE		Ø1/4 ID X 3-1/2 ft PACIFIC RUBBER #3284-2501	1
			B/O	-55	1	GATLOLA HOSE		Ø3/8 ID X 15 ft PACIFIC RUBBER #3284-1101	1
			B/O	-57	1	CO2 TANK #5 EMPTY	ALUMINUM	FOXX EQUIP. #01F05103	1
			B/O	-59	4	O-RING	RUBBER	VITON CHRISTOPHER SEALS #V75-109	5
		X	-61	1	1	WELDED FRAME ASSEMBLY			6
			-63	1	1	CONTROL PANEL	5052	.080 X 4 X 11-1/4	7
			-65	1	1	LID LATCH MOUNT	6061	1/4 X 3/4 X 1-5/8	8
			-67	1	1	CONTROL PANEL PLAQUE	PLASTIC	1/16 X 4 X 8 MULTI-CRAFT PLASTICS #LH922402	9
		X	-68	1	1	LID ASSEMBLY			10
		X	-68A	1	1	LID WELDMENT			11
			-69	1	1	LID	BRUSHED S.S. 304-48	.036 X 10 X 24-1/4	12
			-70	1	1	CORNER CLIP	BRUSHED S.S. 304-48	.036 X 3/8 X 1-1/4	13
			-71	1	1	LID HINGE	S.S.	1in. FLAT X 21-3/4 R&S INDUSTRIAL SUPPLIES	10
			-73	2	2	TANK STRAP	S.S.	.030 X 3/4 X 25-1/4 PACIFIC RUBBER #BANC206	14
			-75	1	1	CO2 CYLINDER STRAP	S.S.	.030 X 3/4 X 18-1/2 PACIFIC RUBBER #BANC206	15
			-77	6	6	BARREL NUT	STEEL	1/4-20 X .786 J&S #JCD14202010	1
			-81	1	1	TOP SIDE RAILS	6063 ARCH.	1/8 X 1 X 2 X 8-7/8	16
			-83	1	1	BACK TOP RAIL	6063 ARCH.	1/8 X 1 X 2 X 23	17
			-85	1	1	FRONT TOP RAIL	6063 ARCH.	1/8 X 1 X 2 X 23	18
			-87	4	4	VERTICLE SUPPORTS	6061 SQ. CORNER	1/8 X 3/4 X 3/4 X 19-1/8	19
			-89	2	2	BOTTOM FRONT AND BACK RAILS	6063 ARCH.	1/8 X 1 X 2 X 23	20
			-91	2	2	BOTTOM SIDE RAILS	6063 ARCH.	1/8 X 1 X 2 X 8-3/4	21
			-93	2	2	BOTTOM PLATES	6061	1/8 X 2 X 4-3/4	22
			-96	4	4	SIDE BARS	6061	3/16 X 1-1/2 X 8	24
			-99	1	1	BACK BAR	6061	3/16 X 1-1/2 X 22-1/4	25
			B/O	-101	2	CHEST HANDLE	STEEL	ESSENTIA #NSH-220	1
			B/O	-103	2	TOP FLUSH PULL LATCH	PLASTIC	ICO RALLY, (SOUTHC0 #M1-61)	1
			B/O	-105	4	PAN HEAD MACHINE SCREW	S.S.	1/4 X 20 X 1-1/2 MCMASTER-CARR #91735A546	1
			B/O	-107	2	PAN HEAD MACHINE SCREW	S.S.	1/4-20 X 1-1/4 MCMASTER-CARR #91735A544	1

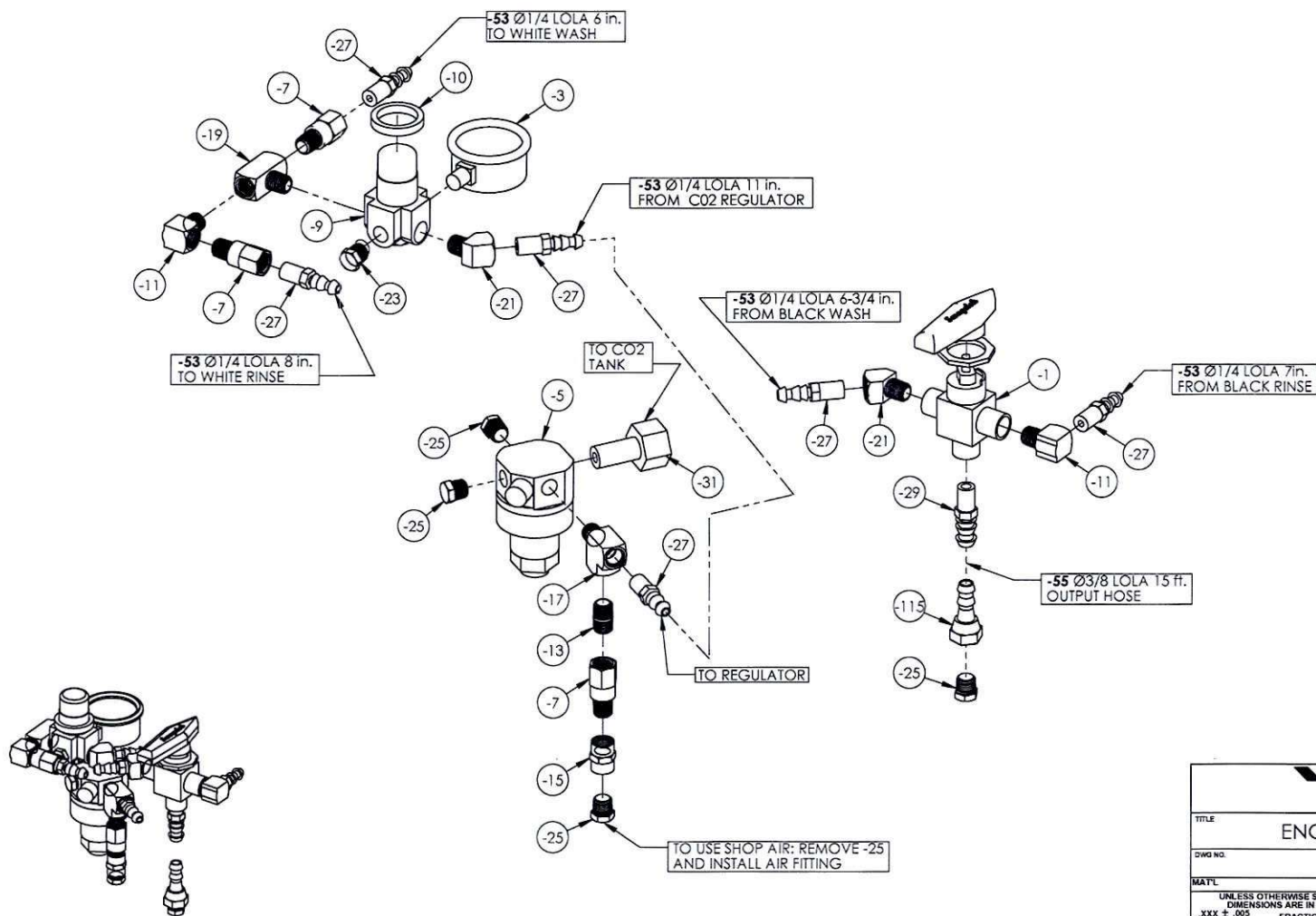
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		LID LENGTHENED BY 1/16 TO ALLOW FOR ADEQUATE CLEARANCE.	3/5/02		
2		MERGED SIX FILES INTO ONE. INSTALLED NEW BOM & REVISION LOG. RE-FORMATTED ENTIRE FILE. ADDED Pg. 1, 6, 7 & 10. ALSO ADDED -68 LID ASSEMBLY, AND SEVERAL MISSING ITEMS. DELETED -97 FOR TWO MORE -95.	11/7/07	WP	RW
3		ADDED WASH & RINSE LABEL DWG. 3.	12/27/07	WP	RW
4		CHD HANDLE HOLE POSITION -95 TO MATCH NEW HANDLES. OLD HANDLES ARE UNAVAILABLE.	4/26/10	WP	RW
4A		CHD BOM INFORMATION FOR -3, -33, & -103 PER B.R.	9/3/10	RJC	RW
4B		REPLACED -9 FROM ARROW #R-162; W/8PK1611 NUT PER R.W.	1/17/12	RJC	RW
5		-81 CHD HANDLE NOTE FROM 1.870 TO 1.75 MUST MATCH HANDLES -101. CHD HOLE LOCATIONS FROM .43 TO .375. REPLACED LOWER -95 W/O HOLES WITH 2 -96 TO BOM & DELETED 2 -95. -95 CHD HOLE LOCATIONS FROM .435 TO .375 & 2.750 TO 3.00. ADDED MISSING Ø.234 DIA.	2/7/13	RJC	GE
5A		CHD TITLE LOCK FROM HELI TECH TO RED BARN. CHD PLACARD FROM HELI TECH TO DART AREOSPACE	9/5/13	RJC	RW
6	14-0161	CHD B/O INFO -33 P/N WAS V0884 5-979 IS VITON #5-797VB84-75. -49 P/N WAS F-475-A IS 06E04-147. -53 CHD B/O INFO WAS LOLA HOSE IS GAT4 LOLA HOSE & ADDED P/N PACIFIC RUBBER #3284-250. -55 CHD B/O INFO WAS LOLA HOSE IS GAT6 LOLA HOSE & ADDED P/N PACIFIC RUBBER #3284-1101. -67 CHD MATERIAL LENGTH WAS 1-1/2 IS 1-5/8. -69 & -70 CHD MATERIAL WAS Ø34 IS Ø36. -70 CHD QTY WAS 1 IS 4. -73 CHD DESCRIPTION WAS TANK STRAPPING IS TANK STRAP. -78 CHD DESCRIPTION WAS CYLINDER STRAPPING IS CO2 CYLINDER STRAP. -77 ADDED P/N #14202010. -81, -83, -85, -87, -89, -91 CHD MATERIAL WAS 6061 IS 6063 ARCHITECTURAL. -81 CHD LENGTH WAS 8-3/4 IS 8-7/8. -87 CHD LENGTH WAS 19 IS 19-1/8. -96 CHD LENGTH WAS 8-1/8 IS 8. AND CHD QTY WAS 2 IS 4 (SEE REV 5). -99 CHD LENGTH WAS 22-1/8 IS 22-1/4. -101 CHD VENDOR WAS RED IS ESSENTIA. -117 DELETED AND ADDED ONE MORE -25 FOR TOTAL OF 4. -118 CHD P/N WAS 6161 IS 24A686. -119 CHD PLACARD FROM HELITECH TO DART #841011. -125 CHD FROM STEEL TO S.S. ADDED SEPARATE SHEETS 4 & 5 TO SHOW MODIFICATIONS. -41 ADDED DRILL HOLES AFTER WELDING TO MATCH -101 AND DELETED DIMS FOR HOLE PLACEMENT. -47 ADDED EMAIL TO EMAIL ADDRESS. -48A ADDED LID WELDMENT DWG. -49 & -70 CHD DIA WAS Ø34 IS Ø36. -75 CHD DESCRIPTION WAS CYLINDER STRAPPING IS CO2 CYLINDER STRAP. -81 REMOVED Ø.234 HOLES AND MOVED TO -61 CHD HOLE DIA. TO 221. -87 CHD HOLE WAS Ø.312 IS .281. -95 REMOVED Ø.234 HOLES AND ADDED TO -61 CHD DIA TO 221. -99 CHD HOLE WAS 2X Ø.312 IS 2X Ø.281.	10/27/2014	RJC	JAG

ASSY QTY	ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			B/O	-109	7	PAN HEAD MACHINE SCREW	S.S.	#10-24 X 1/2 MCMASTER-CARR #91735A242	1
			B/O	-111	8	FLAT HEAD MACHINE SCREW	S.S.	#10-24 X 5/8 MCMASTER-CARR #91771A244	1
			B/O	-113	15	NYLON LOCK NUT	S.S.	#10-24 MC MASTER-CARR #90715A011	1
			B/O	-115	1	ENG. HOSE END FITTING	BRASS	FEM. JIC 37° SWIVEL PACIFIC RUBBER #NWHJF-6-6	1
			B/O	-118	1	DOUBLE SIDED TAPE (FOR -67)	POLYPROPYLENE	4in X 1 GRAINGER #24A686	1
			B/O	-119	1	DART PLACARD	ALUMINUM	#8841011	10
			B/O	-121	1	RINSE LABEL	PLASTIC	SIGNS NOW	26
			B/O	-123	1	WASH LABEL	PLASTIC	SIGNS NOW	27
			B/O	-125	4	PAN HEAD MACHINE SCREW	S.S.	10-24 X 1/4 MCMASTER-CARR #91772A238	1

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW	REV 6
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XX ± .005 FRACTIONS & 1/8 XX ± .01 ANGLES & 5° X ± .1 OR .015"	DRAWN BY: CLOUGH APPROVED D. Wood SPEC USED ON MODEL
SCALE 1:4	DATE 10/15/2014
SHEET 2 OF 29	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
6	14-0161	-117 DELETED AND ADDED ONE MORE -25.	10/27/2014	RJC
			APPROVED	JAG

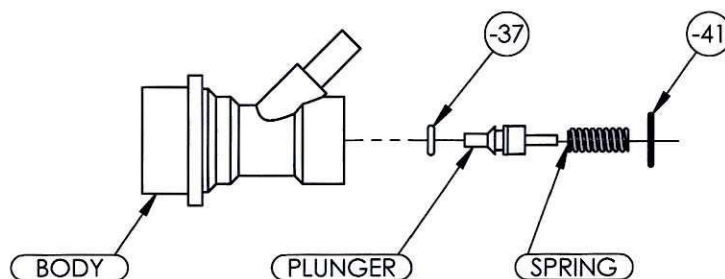
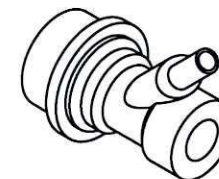


PLUMBING DIAGRAM

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW	REV 6
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/16 .XX ± .01 ANGLES ± 5° .X ± .1 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	DRAWN BY: CLOUGH APPROVED <i>D. Mott</i> REVIEW DATE SPEC USED ON MODEL
SCALE 1:3	DATE 10/15/2014
SHEET 3 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	ADDED SEPARATE SHEET TO SHOW MODIFICATION.	10/27/2014	RJC	JAG

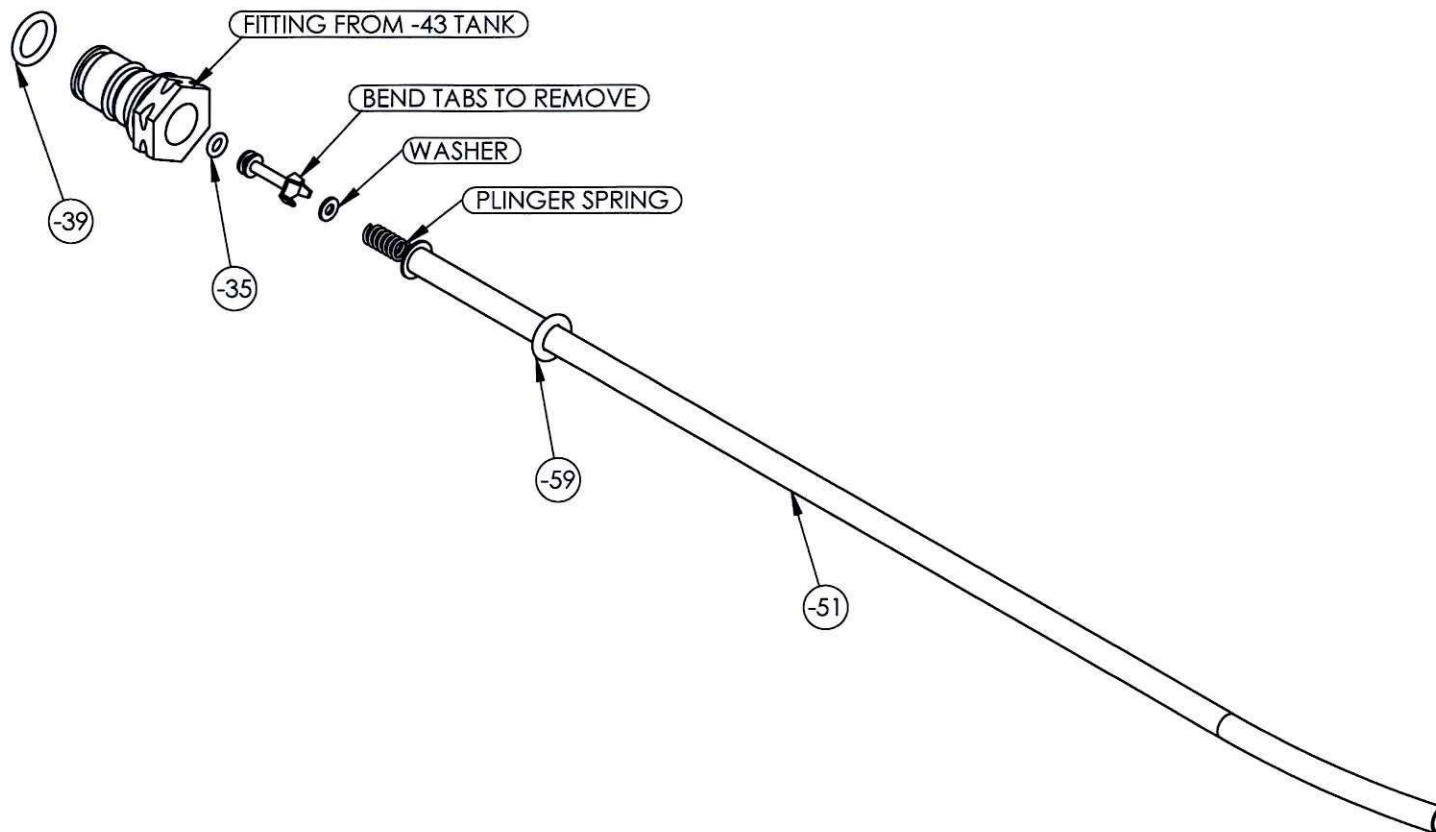


-43 TANK FITTING MODIFICATIONS
 -45 WHITE AIR INTAKE QUICK DISCONNECT
 -47 BLACK FLUID OUT QUICK DISCONNECT

DART AEROSPACE	
ENGINE WASHER	
DWG NO.	HT-300-CW
MAT'L	REV 6
DRAWN BY: NELSON	
APPROVED: <i>D. Well</i>	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XX ± .005 FRACTIONS ± 1/8	
XX ± .01 ANGLES ± 5°	
X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE	DATE
1:2	7/15/2014
SHEET 4 OF 29	

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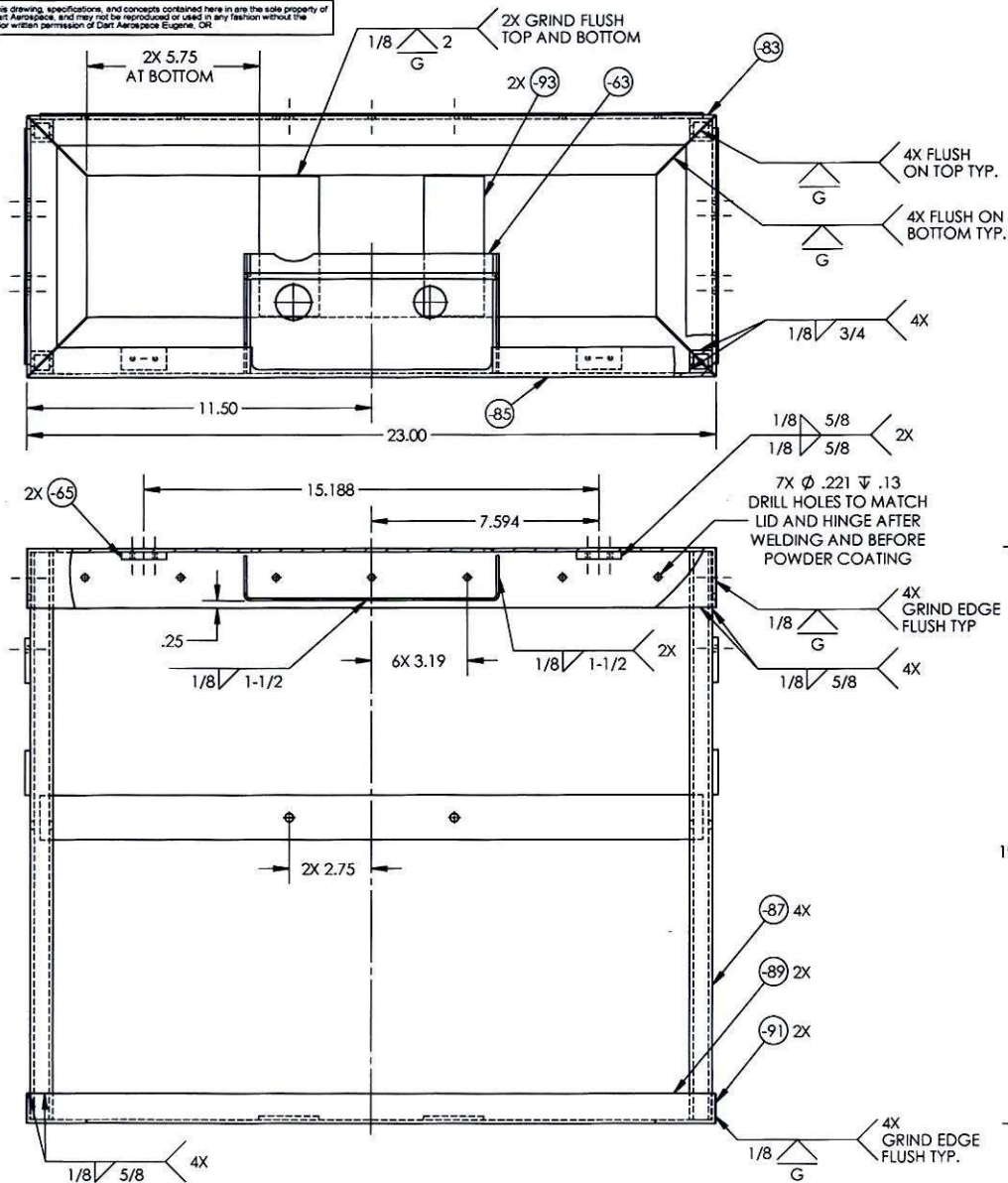
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	ADDED SEPARATE SHEET TO SHOW MODIFICATION.	10/27/2014	RJC	JAG



REPLACE SHORT TUBE WITH -51 DIP
TUBE IN WASH TANK ONLY INLET SIDE.

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW	REV 6
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 .XX ± .01 .X ± .1	DRAWN BY: CLOUGH APPROVED: <i>D. West</i> HEAT TREAT FINISH SPEC USED ON MODEL
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:2	DATE 10/27/2014
SHEET 5 OF 29	

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REVISIONS						
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED	
4		CH'D HANDLE HOLE POSITION -95 TO MATCH NEW HANDLES. OLD HANDLES ARE UNAVAILABLE.	4/26/10	WP	RW	
5	14-0161	-61 ADDED DRILL HOLES AFTER WELDING TO MATCH -101 AND DELETED DIMS FOR HOLE PLACEMENT.	10/27/2014	RJC	JAG	

WELDED FRAME ASSY

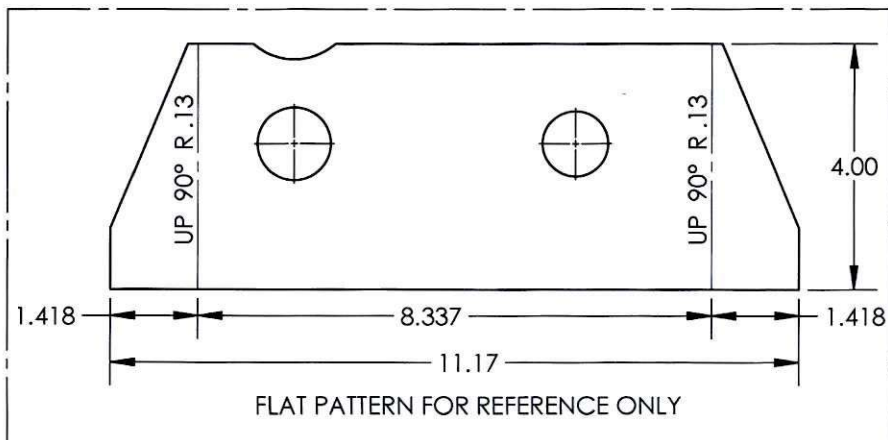
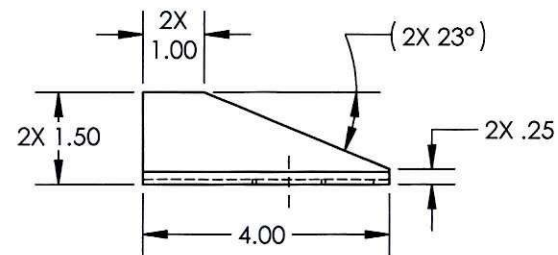
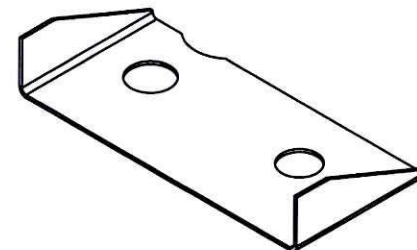
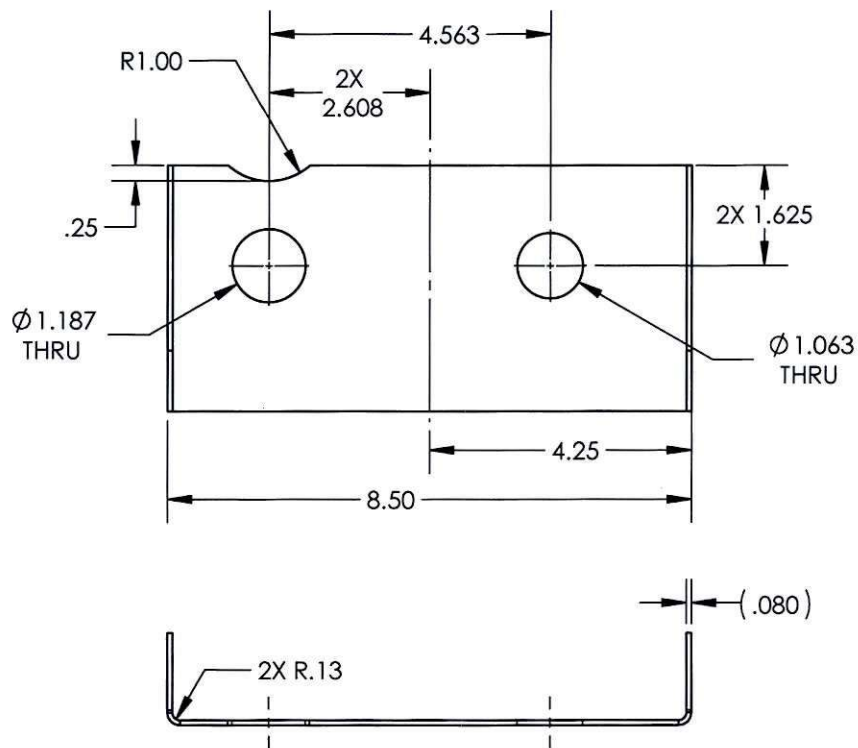
4X Ø .221
WELDING FABRICATOR MUST
GET SAMPLE HANDLE -101
FOR PLACEMENT OF -96
DRILL HOLES AFTER WELDING
TO MATCH -101

NOTE:
1. FRAME MUST BE FLAT ON BOTTOM AFTER WELDING.

	
TITLE ENGINE WASHER	
DWG NO. HT-300-C W-61	REV 6
MATL.	DRAWN BY CLOUGH <i>D. Weir</i>
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED HEAT TREAT FINISH POWDER COAT YELLOW SPEC FED #13538 USED ON MODEL
XXX ± .005 XX ± .01 X ± .1 1. BREAK ALL SHARP EDGES .015 ± .45" OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	SCALE 1:4 DATE 9/26/2014 SHEET 6 OF 29

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REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED



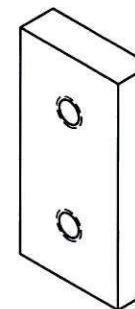
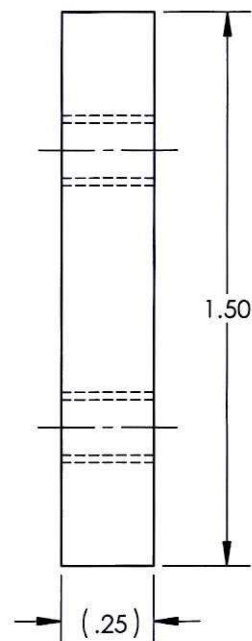
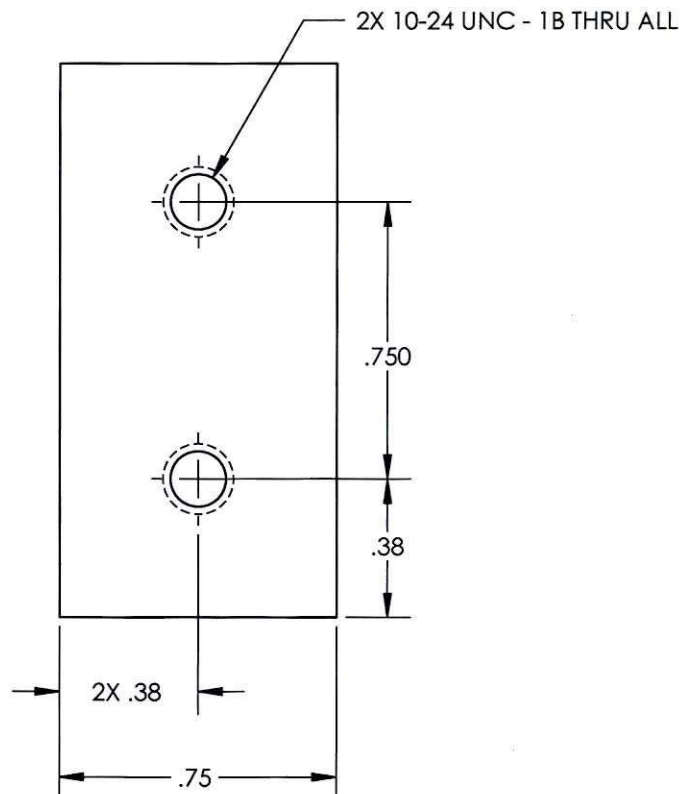
-63

CONTROL PANEL

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-63	REV 6
MAT'L 5052	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D. Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -61 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:3	DATE 9/25/2014
SHEET 7 OF 29	

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REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED

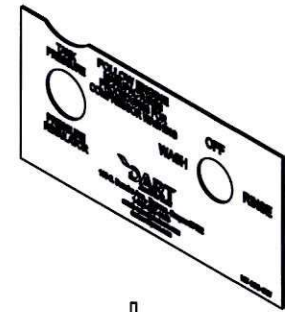
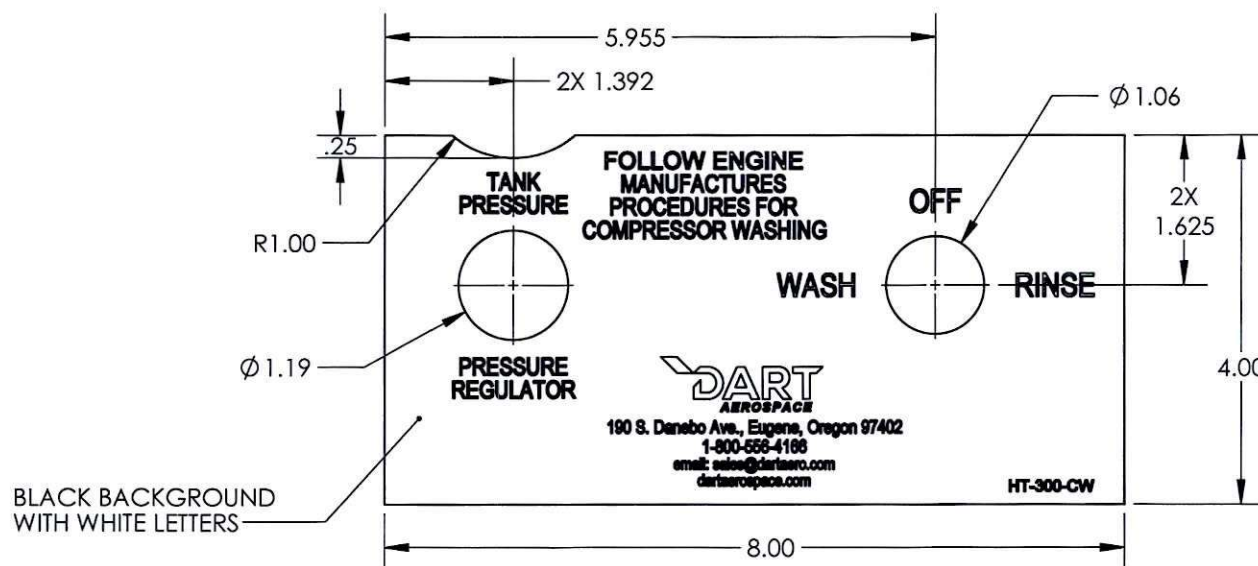


(-65)
LID LATCH MOUNT

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-65	REV 6
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D. Well</i>
.XXX ± .005	HEAT
.XX ± .01	TREAT
.X ± .1	FINISH SEE -61 WELDMENT
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
SCALE 2:1	DATE 9/25/2014
SHEET 8 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
5A		CH'D PLACARD FROM HELI TECH TO DART AEROSPACE E.	9/5/13	RJC	RW
6	14-0161	-67 ADDED EMAIL TO EMAIL ADDRESS.	10/27/2014	RJC	JAG



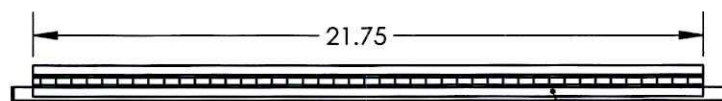
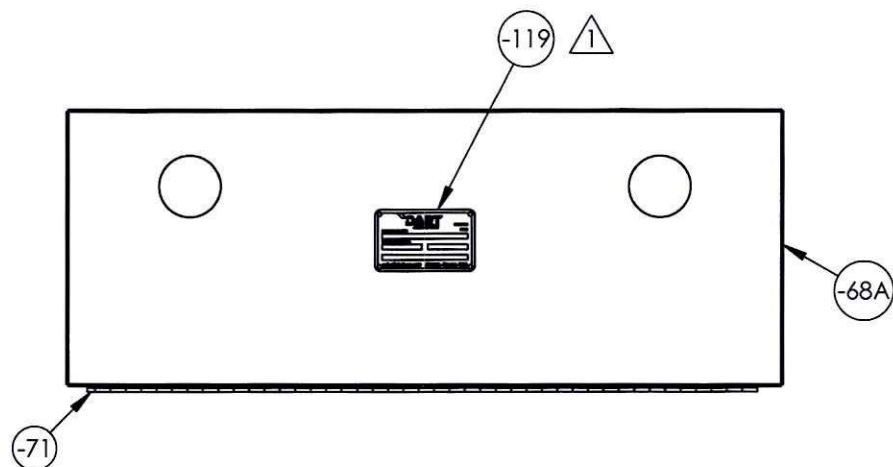
NOTE:
USE PDF FILE.

(-67)
CONTROL PANEL PLAQUE

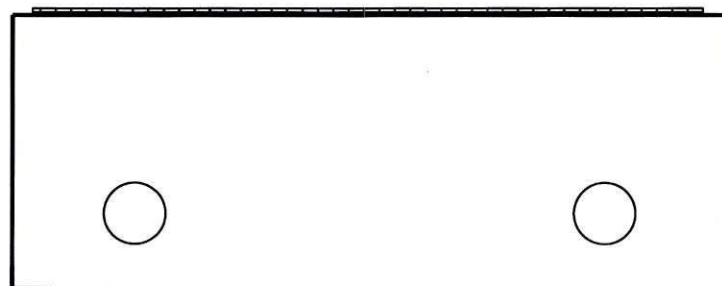
DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-67	REV 6
MAT'L PLASTIC	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± .5°	FINISH
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:2	DATE 9/26/2014 SHEET 9 OF 29

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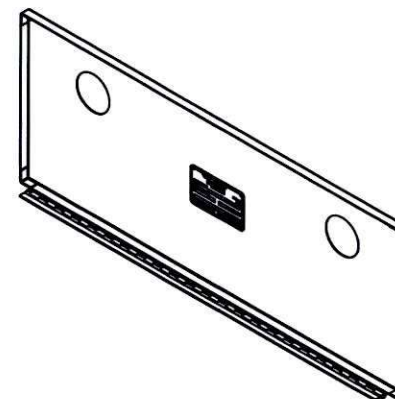
REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



SPOT WELD -71 HINGE TO THIS SIDE 7X
MATCHING OPPOSING SCREW HOLES
WITH HINGE FACING OUT



-68
LID ASSEMBLY



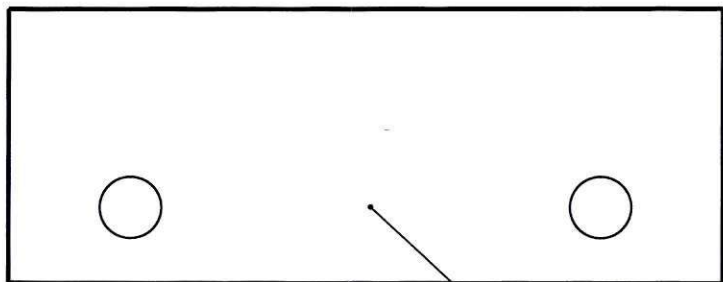
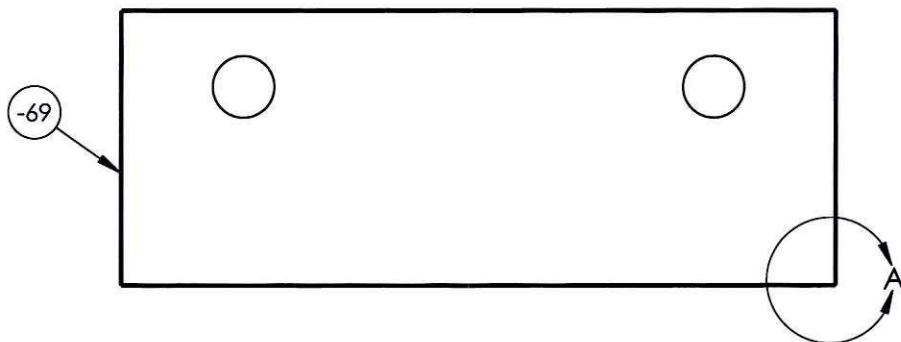
NOTE:

1 ENGRAVE -119 WITH T/N, S/N, SERIES 300
ENGINE WASH SYSTEM.

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-68	REV 6
MAT'L	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XXX ± .005 FRACTIONS ± 1/8	
XX ± .01 ANGLES ± 5°	
X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:6	DATE 9/26/2014
SHEET 10 OF 29	

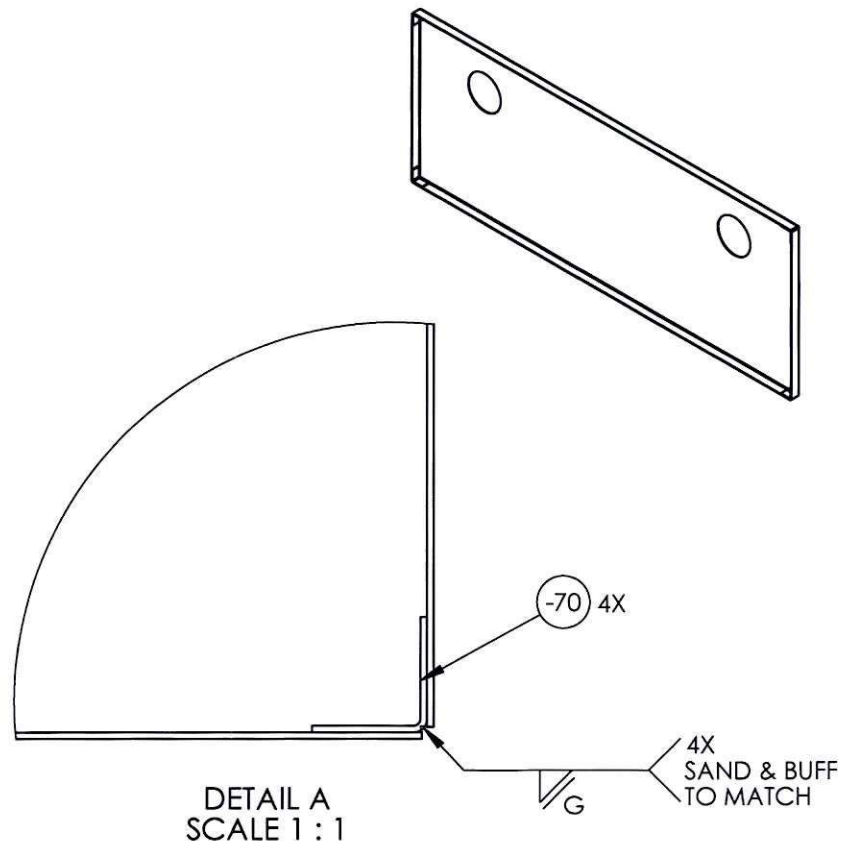
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REVISIONS					DATE	INITIAL	APPROVED
REV	ECR	DESCRIPTION					
1	14-0161	-68A ADDED LID WELDMENT DWG.			10/27/2014	RJC	JAG



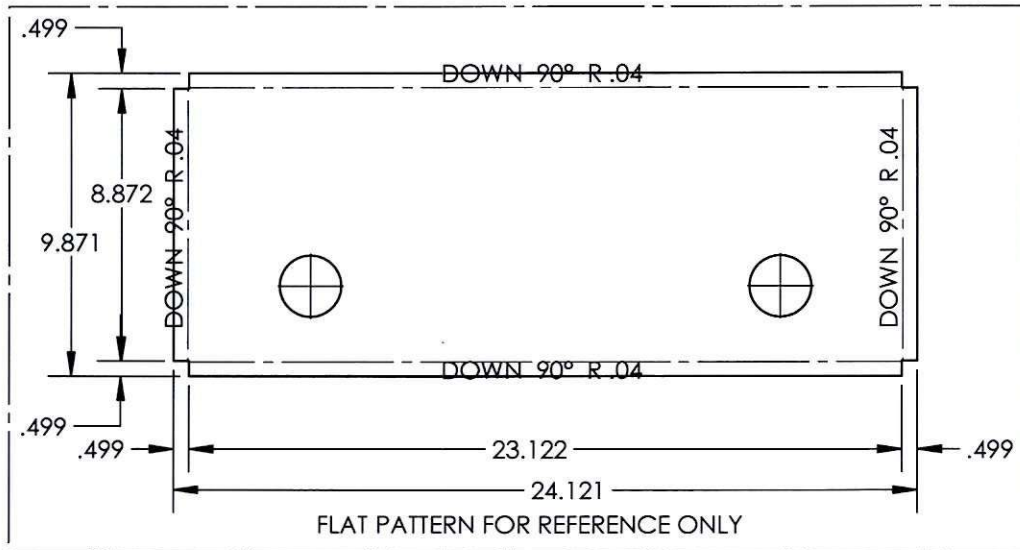
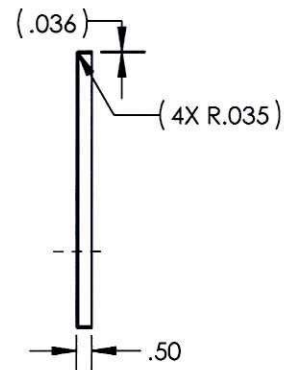
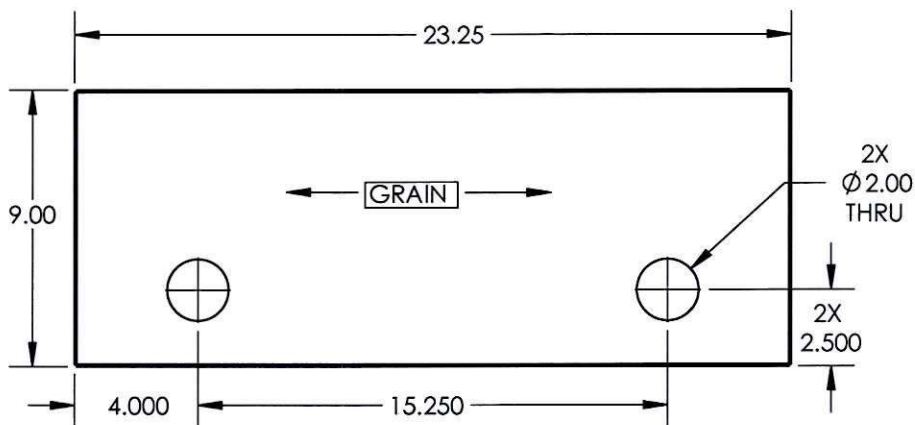
VINYL COAT TOP SURFACE FOR PROTECTION
IF POSSIBLE NO DIE MARKS, DENTS, OR SCRATCHES
PERMITTED ON TOP SURFACE

-68A
LID WELDMENT



DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-68A	REV 6
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1	DRAWN BY: CLOUGH APPROVED: <i>D. Weir</i> HEAT TREAT FINISH SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
SCALE 1:6	DATE 10/21/2014 SHEET 11 OF 29

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		LID LENGTHENED BY 1/16 TO ALLOW FOR ADEQUATE CLEARANCE .	3/5/02		
6	14-0161	-69 CH'D DIM WAS .034 IS .036.	10/27/2014	RJC	JAG



(-69)

LID



TITLE	
-------	--

ENGINE WASHER

DWG NO.

HT-300-CW-69

REV	6
-----	---

MAT'L BRUSHED S.S. 304-4B

DRAWN BY:

CLOUGH

UNLESS OTHERWISE SPECIFIED

0	APPROVED
---	----------

D. Meil

DIMENSIONS ARE IN INCHES
XXX ± .010 FRACTIONS 1/16

HEAT
TREAT

.XXX ± .010	FRACTIONS ± 1/8
.XX ± .03	ANGLES ± 5°

TREAT
FINISH

ANGLES $\pm 5^\circ$

FINISH	
SPEC	

1. BREAK ALL SHARP EDGES .015 x 45
OR .015R

5. SPEC	
---------	--

2. DIMENSIONAL LIMITS APPLY AFTER

2	
---	--

PLATING	
GRADE	DATE

--	--

SCALE	1:6	DATE	9
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0/26/2014

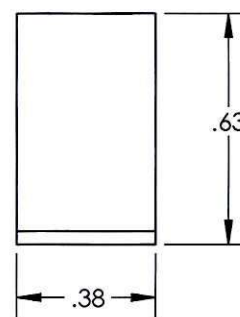
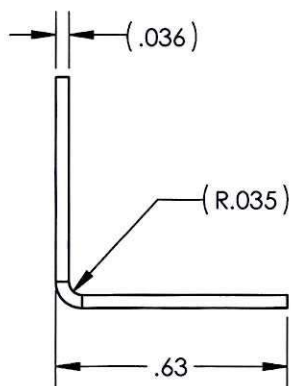
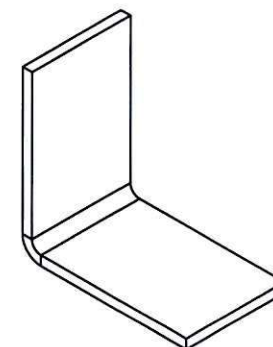
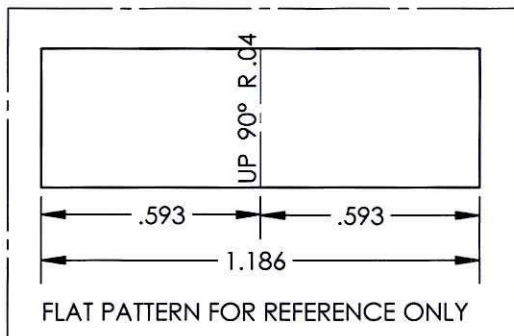
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REFERENCES

SHEET 12 OF 29

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-70 CH'D DIM WAS .034 IS .036.	10/27/2014	RJC	JAG

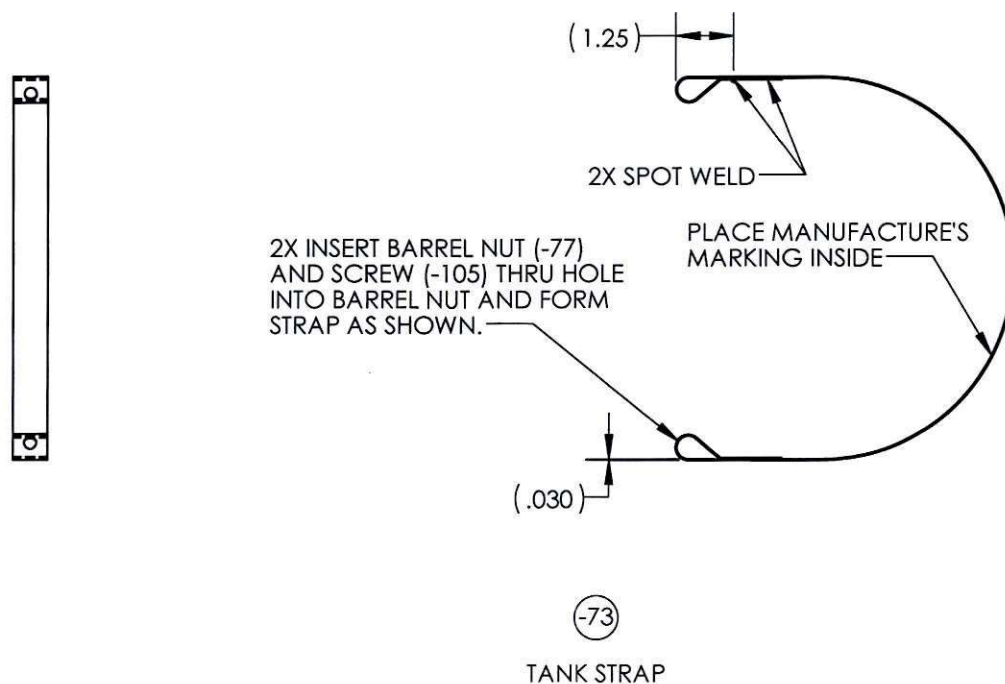
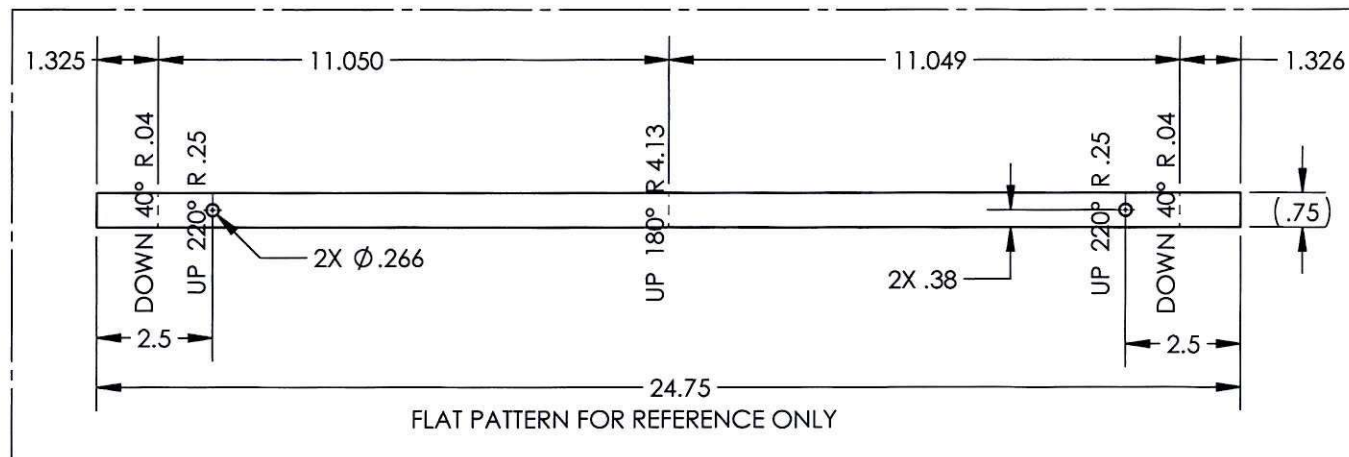


(-70)
CORNER CLIP

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-70	REV 6
MAT'L BRUSHED S.S. 304-4B	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XXX ± .010	FRACTIONS ± 1/8
.XX ± .03	ANGLES ± 5°
.X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 2:1	DATE 9/26/2014
SHEET 13 OF 29	

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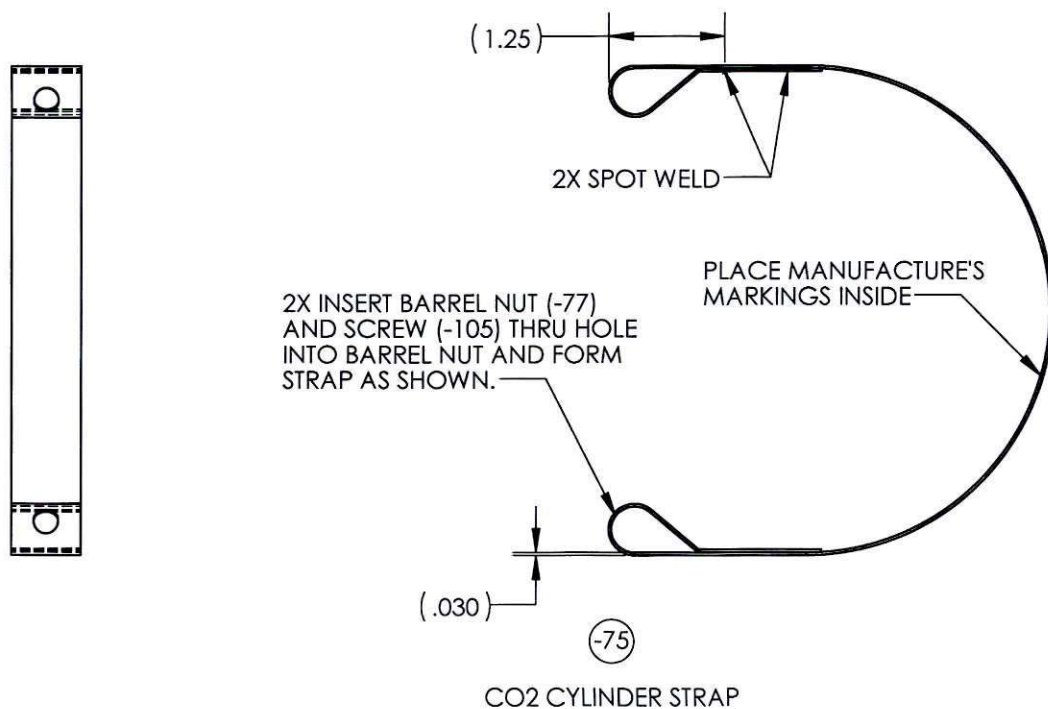
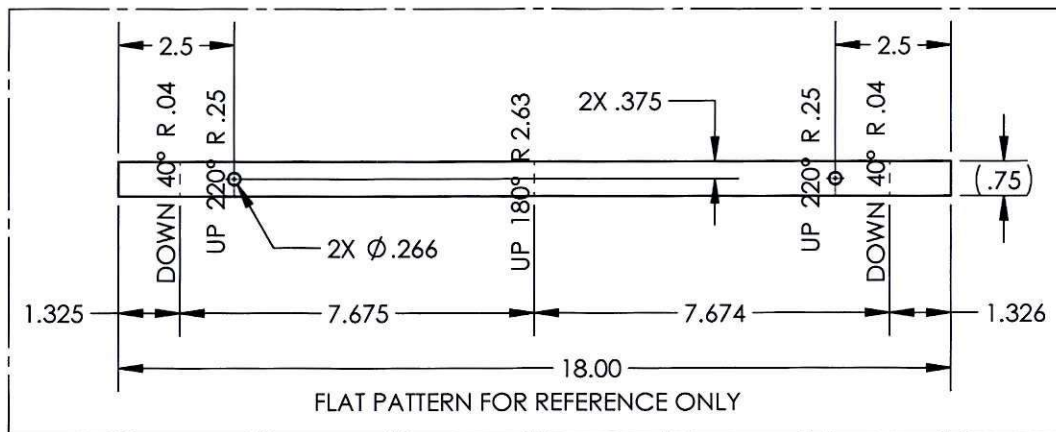
REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED



DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-73	REV 6
MAT'L S S	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED D Weil
.XXX ± .010	HEAT TREAT
.XX ± .03	FINISH
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 10/23/2014
SHEET 14 OF 29	

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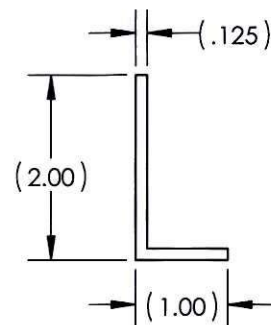
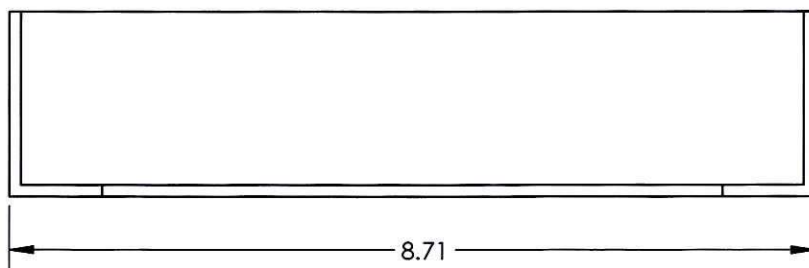
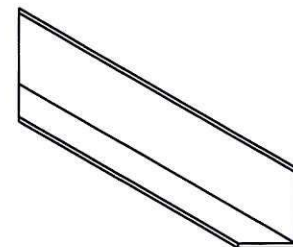
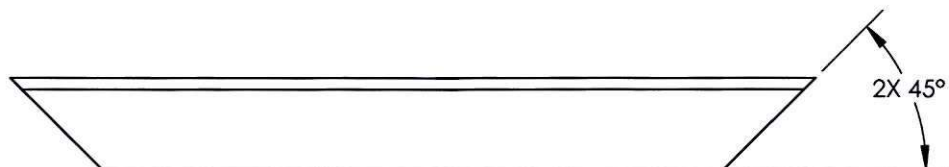
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-75 CH'D DESCRIPTION WAS CYLINDER STRAPPING IS CO2 CYLINDER STRAP.	10/27/2014	RJC	JAG



			
TITLE			
ENGINE WASHER			
DWG NO.			REV
HT-300-CW-75			6
MAT'L S.S.		DRAWN BY: CLOUGH	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVED <i>D Weil</i>	
.XXX ± .010 FRACTIONS ± 1/8		REAT	
.XX ± .03 ANGLES ± 5°		TREAT	
.X ± .1		FINISH	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R		SPEC	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL	
SCALE 1:2	DATE 10/23/2014	SHEET 15 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
5		-81 CH'D HANDLE NOTE FROM 1.870 TO 1.75 MUST MATCH HANDLES -101. CH'D HOLE LOCATIONS FROM .43 TO .375.	2/7/13	RJC	GE
6	14-0161	-81 REMOVED Ø.234 HOLES AND MOVED TO -61 CH'D HOLE DIA. TO .221. MATERIAL CH'D WAS 6061 IS 6063 ARCHITECTURAL.	10/27/2014	RJC	JAG



(-81)

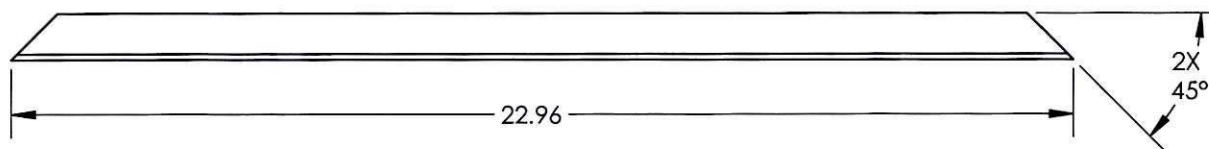
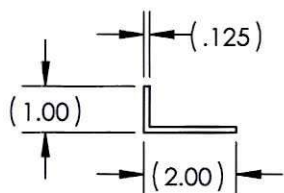
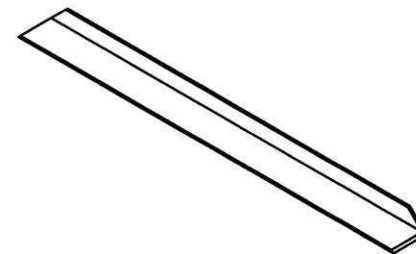
TOP SIDE RAILS



TITLE			ENGINE WASHER		
DWG NO.			HT-300-CW-81		
MAT'L 6063 ARCH.			REV 6		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			DRAWN BY: CLOUGH		
.XXX ± .005			APPROVED <i>D. Weil</i>		
.XX ± .01			HEAT TREAT		
.X ± .1			FINISH SEE -61 WELDMENT		
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R			SPEC		
2. DIMENSIONAL LIMITS APPLY AFTER PLATING			USED ON MODEL		
SCALE 1:2		DATE 9/26/2014		SHEET 16 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-83 MATERIAL CH'D WAS 6061 IS 6063 ARCHITECTURAL.	10/27/14	RJC	JAG



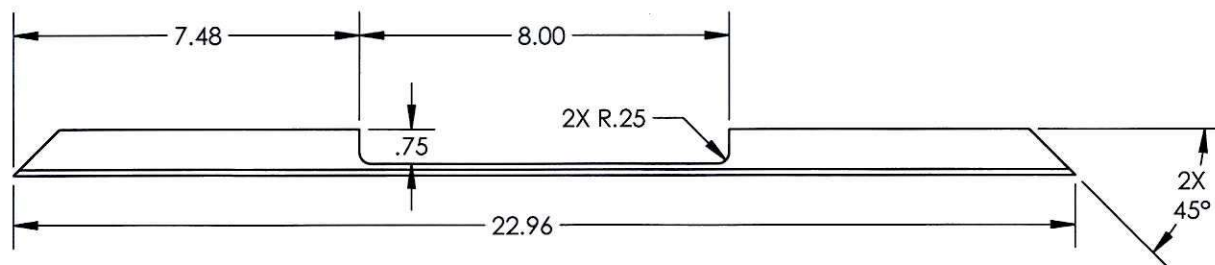
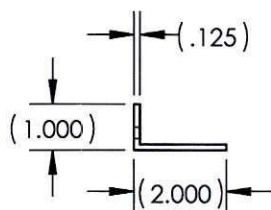
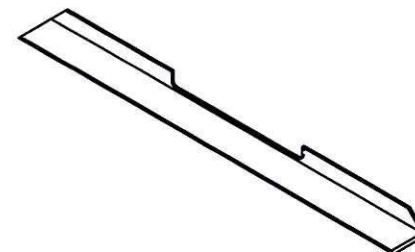
(-83)

BACK TOP RAIL

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-83	REV 6
MAT'L 6063 ARCH.	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XXX ± .005	FRACTIONS ± 1/8
.XX ± .01	ANGLES ± 5°
.X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 9/25/2014
SHEET 17 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-85 MATERIAL CH'D WAS 6061 IS 6063 ARCHITECTURAL.	10/27/14	RJC	JAG



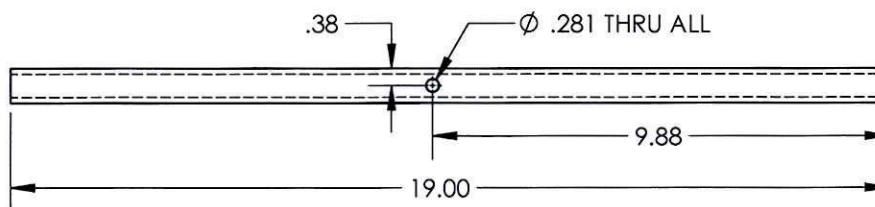
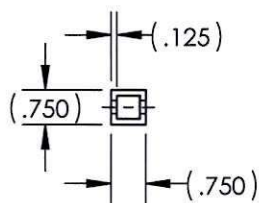
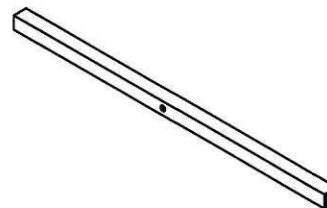
(-85)

FRONT TOP RAIL

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-85	REV 6
MAT'L 6063 ARCH.	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XXX ± .005	FRACTIONS ± 1/8
.XX ± .01	ANGLES ± 5°
.X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 9/25/2014
SHEET 18 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-87 CH'D HOLE WAS Ø.312 IS .281. MATERIAL CH'D WAS 6061 IS 6063 ARCHITECTURAL.	10/27/2014	RJC	JAG



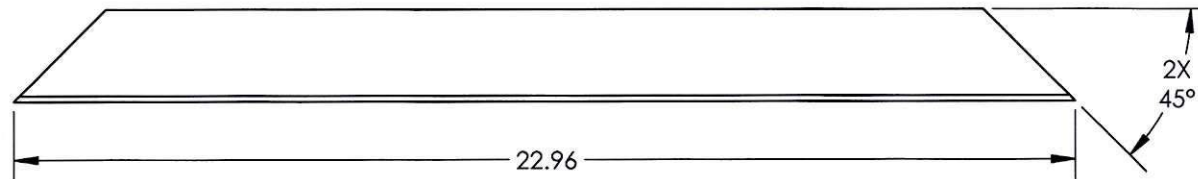
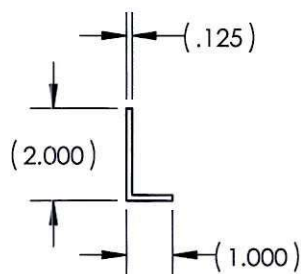
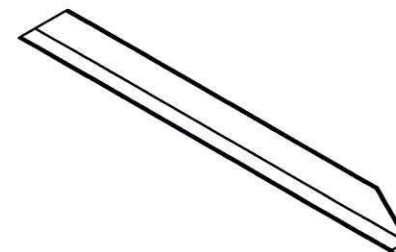
(-87)

VERTICLE SUPPORTS

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-87	REV 6
MAT'L 6061 SQ. CORNER	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005	HEAT TREAT
.XX ± .01	FINISH SEE -61 WELDMENT
.X ± .1	ANGLES ± .5°
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
SCALE 1:4	DATE 9/26/2014
SHEET 19 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-89 MATERIAL CH'D WAS 6061 IS 6063 ARCHITECTURAL.	10/27/14	RJC	JAG



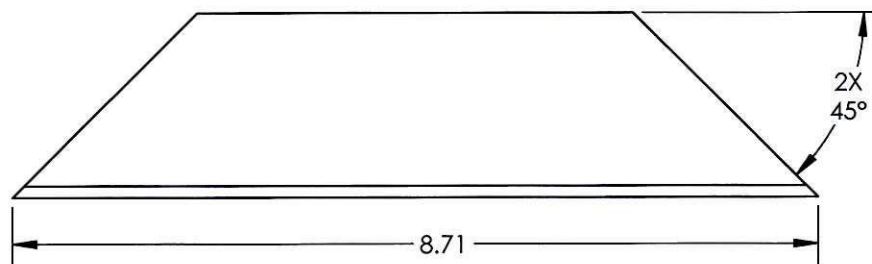
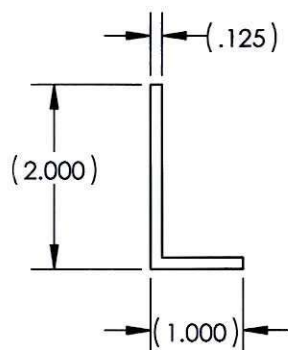
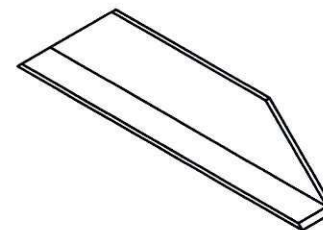
(-89)

BOTTOM FRONT AND BACK RAILS

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-89	REV 6
MAT'L 6063 ARCH.	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XXX ± .005	FRACTIONS ± 1/8
.XX ± .01	ANGLES ± 5°
.X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 9/26/2014
SHEET 20 OF 29	

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REVISIONS					DATE	INITIAL	APPROVED
REV	ECR	DESCRIPTION					
6	14-0161	-91 MATERIAL CH'D WAS 6061 IS 6063 ARCHITECTURAL.			10/27/14	RJC	JAG



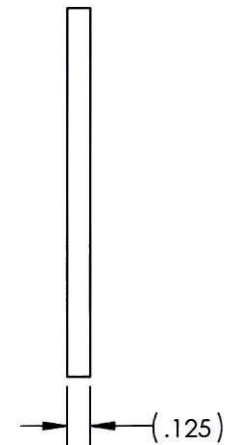
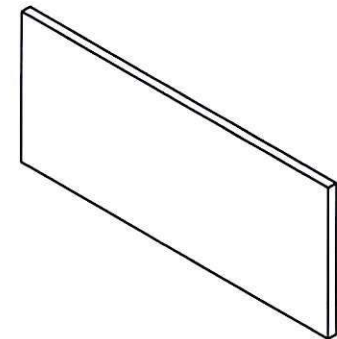
(-91)

BOTTOM SIDE RAILS

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-91	REV 6
MAT'L 6063 ARCH.	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D. West</i>
.XXX ± .005	HEAT TREAT
.XX ± .01	FINISH SEE -61 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:2	DATE 9/26/2014 SHEET 21 OF 29

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED



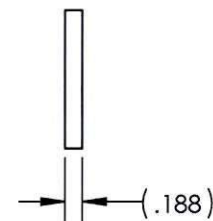
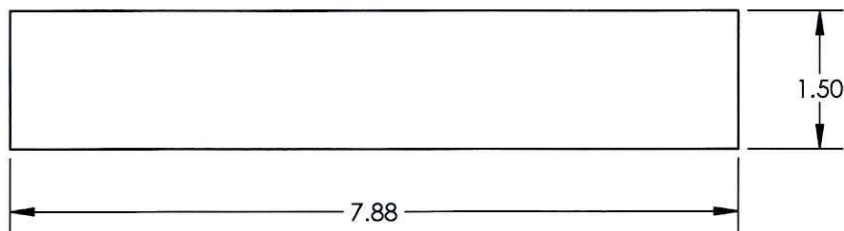
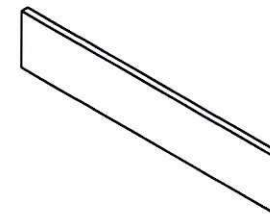
(-93)

BOTTOM PLATES

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-93	REV 6
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005	HEAT TREAT
.XX ± .01	FINISH SEE -61 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:1	DATE 9/26/2014 SHEET 22 OF 29

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
5		-96 ADDED SIDE BAR W/O HOLES.	1/31/13	RJC	SE
6	14-0161	-96 CORRECTED BOM QUANTITY WAS 2 IS 4, PER REV 5.	10/27/14	RJC	JAG



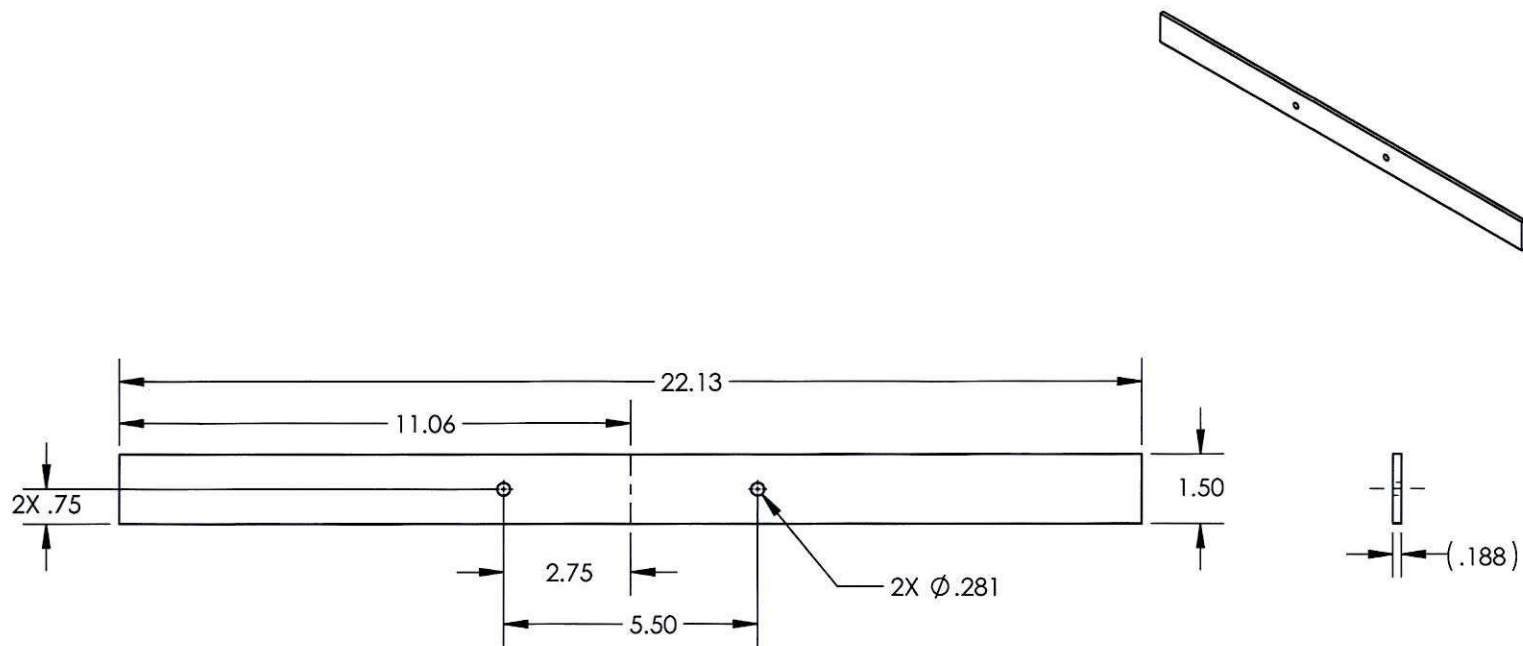
(-96)

SIDE BARS

DART AEROSPACE	
TITLE ENGINE WASHERS	
DWG NO. HT-300-CW-96	REV 6
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005	HEAT TREAT
.XX ± .01	FINISH SEE -61 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:2	DATE 9/26/2014 SHEET 23 OF 29

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
6	14-0161	-99 CH'D HOLE WAS 2X Ø.312 IS 2X Ø.281.	10/27/2014	RJC	JAG



(-99)
BACK BAR

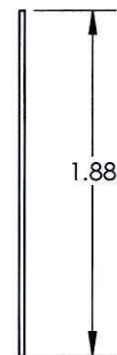
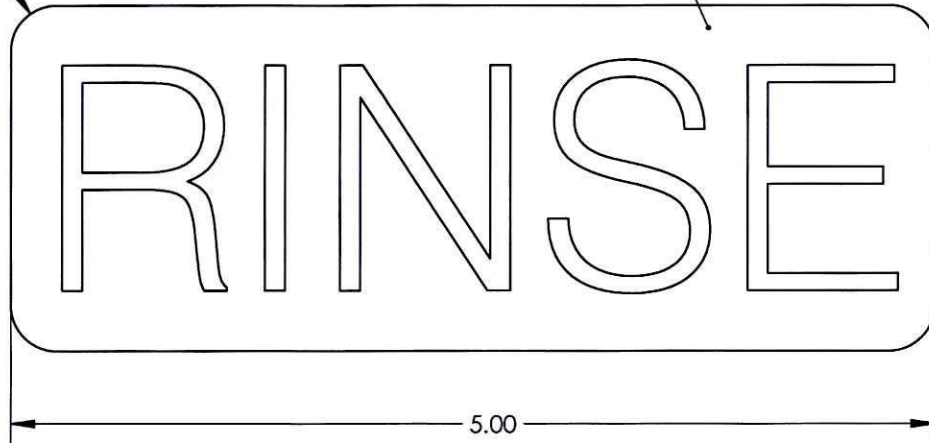
DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-99	REV 6
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005	HEAT TREAT
.XX ± .01	FINISH SEE -61 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 9/26/2014
SHEET 24 OF 29	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3		ADDED RINSE LABEL DWG.	12/27/07	WP	RW

WHITE LETTERS WITH
BLACK BACKGROUND,
FONT IS SWIS 721
CHARACTER HT. 1.22
LINE THICKNESS 3/16

4X R.25



-121

RINSE LABEL

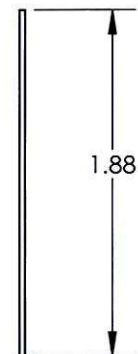
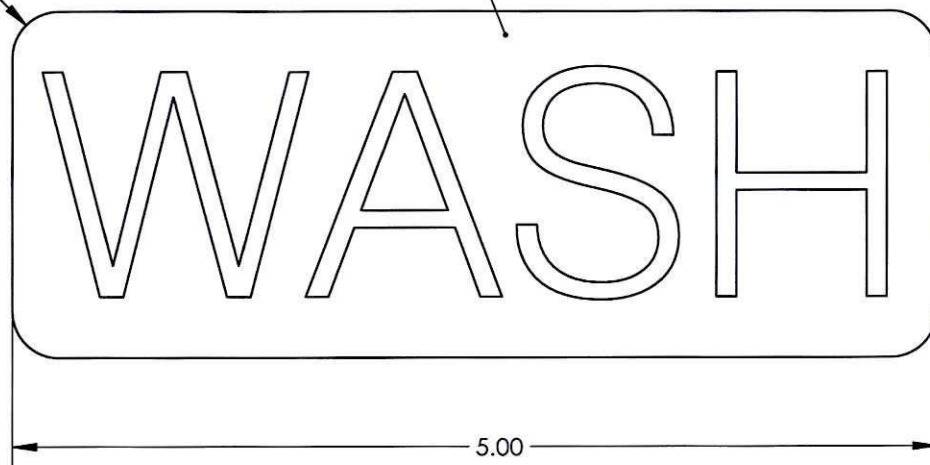
DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW-121	REV 6
MAT'L PLASTIC	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005	HEAT
.XX ± .01	TREAT
.X ± .1	FINISH
ANGLES ± 5°	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:1	DATE 9/29/2014
SHEET 25 OF 29	

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REVISIONS				DATE	INITIAL	APPROVED
REV	ECR	DESCRIPTION				
3		ADDED WASH LABEL DWG.		12/27/07	WP	RW

WHITE LETTERS WITH
BLACK BACKGROUND,
FONT IS SWIS 721
CHARACTER HT. 1.22
LINE THICKNESS 3/16

4X R.25



-123

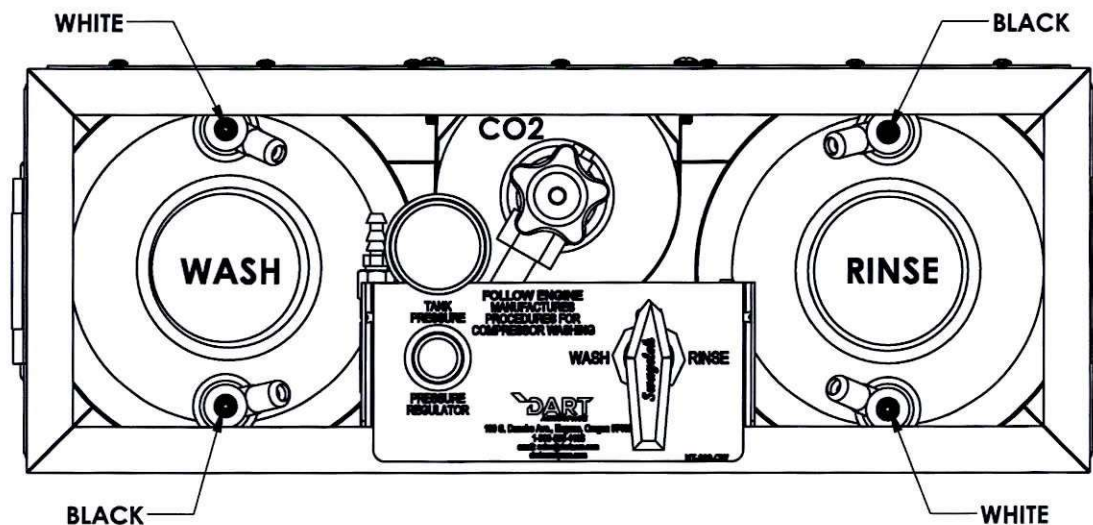
WASH LABEL



TITLE		ENGINE WASHER	
DWG NO.		HT-300-CW-123	
REV		6	
MATERIAL		DRAWN BY: CLOUGH	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVED <i>D. Weil</i>	
.XXX ± .005		HEAT	
.XX ± .01		TREAT	
.X ± .1		FINISH	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R		SPEC	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL	
SCALE	1:1	DATE	9/29/2014
		SHEET 26 OF 29	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



TESTING PROCEDURES:

1. PLACE OPERATING HANDLE IN THE OFF POSITION.
2. CHECK TANKS FOR PROPER TUBE INSTALLATION AND REMOVE ANY DEBRIS.
3. REGULATE SHOP AIR TO 75 PSI.
4. WITH TANKS OPEN BLOW AIR THROUGH LINES TO PURGE.
5. REPLACE TANK LIDS.
6. SET REGULATOR TO 75 PSI AND CHARGE SYSTEM.
7. DISCONNECT SHOP AIR AND BLEED ALL PRESSURE FROM WASH TANK THEN VERIFY RINSE TANK IS STILL PRESSURIZED. THIS TEST CHECKS VALVE OPERATION.
8. REPEAT #5 & #6 ABOVE FOR OTHER TANK.
9. COMPLETELY BLEED SYSTEM AND PUT A QUART OF WATER IN EACH TANK.
10. CHARGE SYSTEM WITH SHOP AIR.
11. MOVE OPERATING HANDLE TO WASH POSITION, LOOSEN SHIPPING PLUG IN END OF OUTPUT HOSE TO BLEED OFF AIR IN LINE, TIGHTEN PLUG WHEN WATER COMES OUT.
12. CHECK FOR LEAKS AT ALL FITTINGS.
13. REPEAT #11 & #12 FOR RINSE POSITION.
14. MOVE OPERATING HANDLE TO OFF POSITION, REMOVE SHIPPING PLUG FROM OUTPUT HOSE.
15. BLOW WATER OUT OF EACH TANK.
16. AGAIN SELECT OFF POSITION, SET REGULATOR BELOW 30 PSI.
17. CLEAN UP WASH KIT AND DRY OUT TANKS.
18. APPLY DECALS AS REQUIRED.
19. LEAVE TANK VENTS OPEN FOR SHIPPING.
20. BOX FOR SHIPPING.

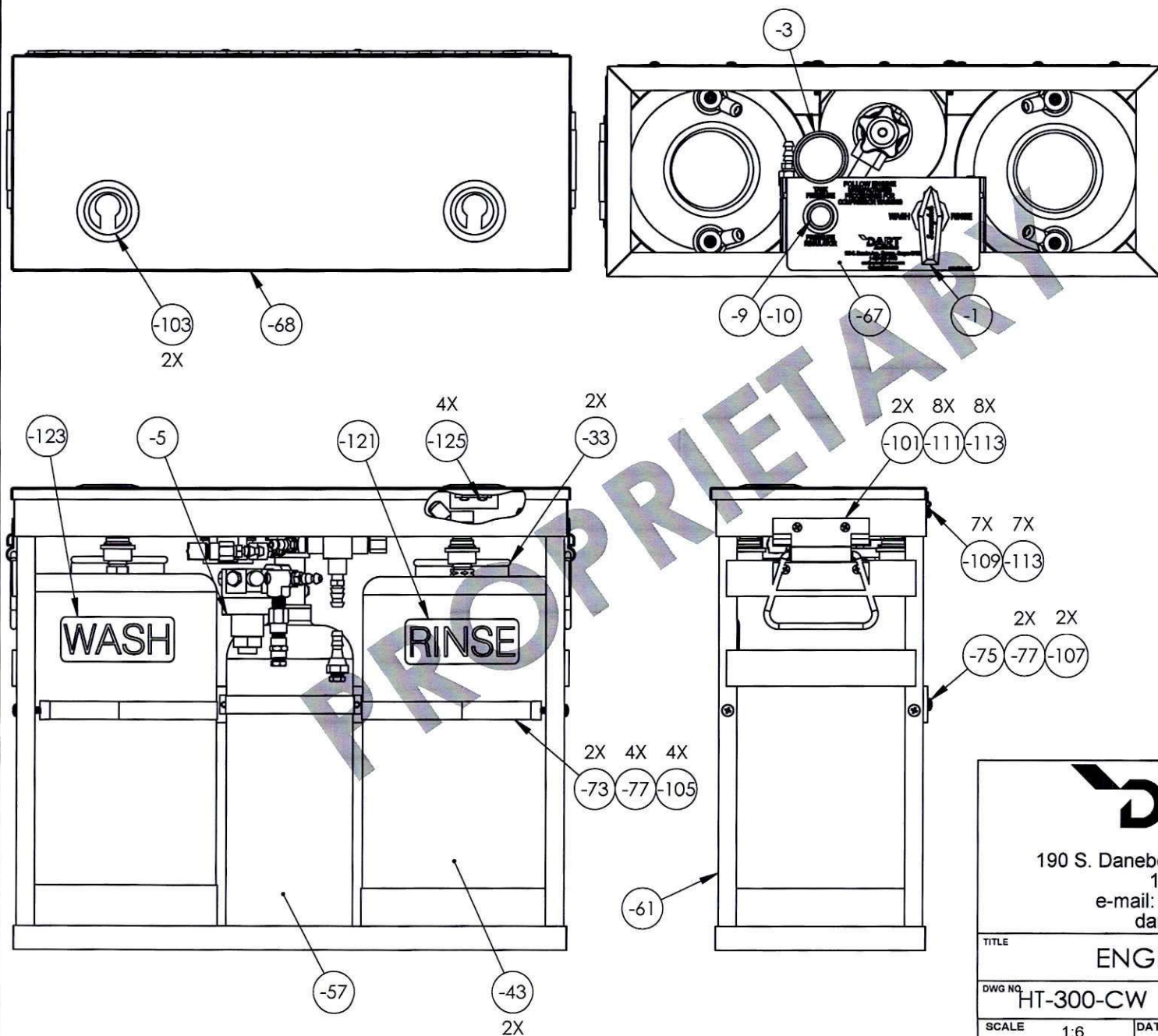
NOTE:

DO NOT CHARGE CO2 TANK!

CO2 TANK MAY NOT BE SHIPPED BY AIR IF IT HAS EVER BEEN CHARGED.

DART AEROSPACE	
TITLE ENGINE WASHER	
DWG NO. HT-300-CW	REV 6
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1	DRAWN BY: CLOUGH APPROVED: <i>D Weil</i> HEAT TREAT FINISH SPEC 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING
SCALE 1:4	DATE 10/15/2014
SHEET 27 OF 29	

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HT-300-CW BILL OF MATERIALS

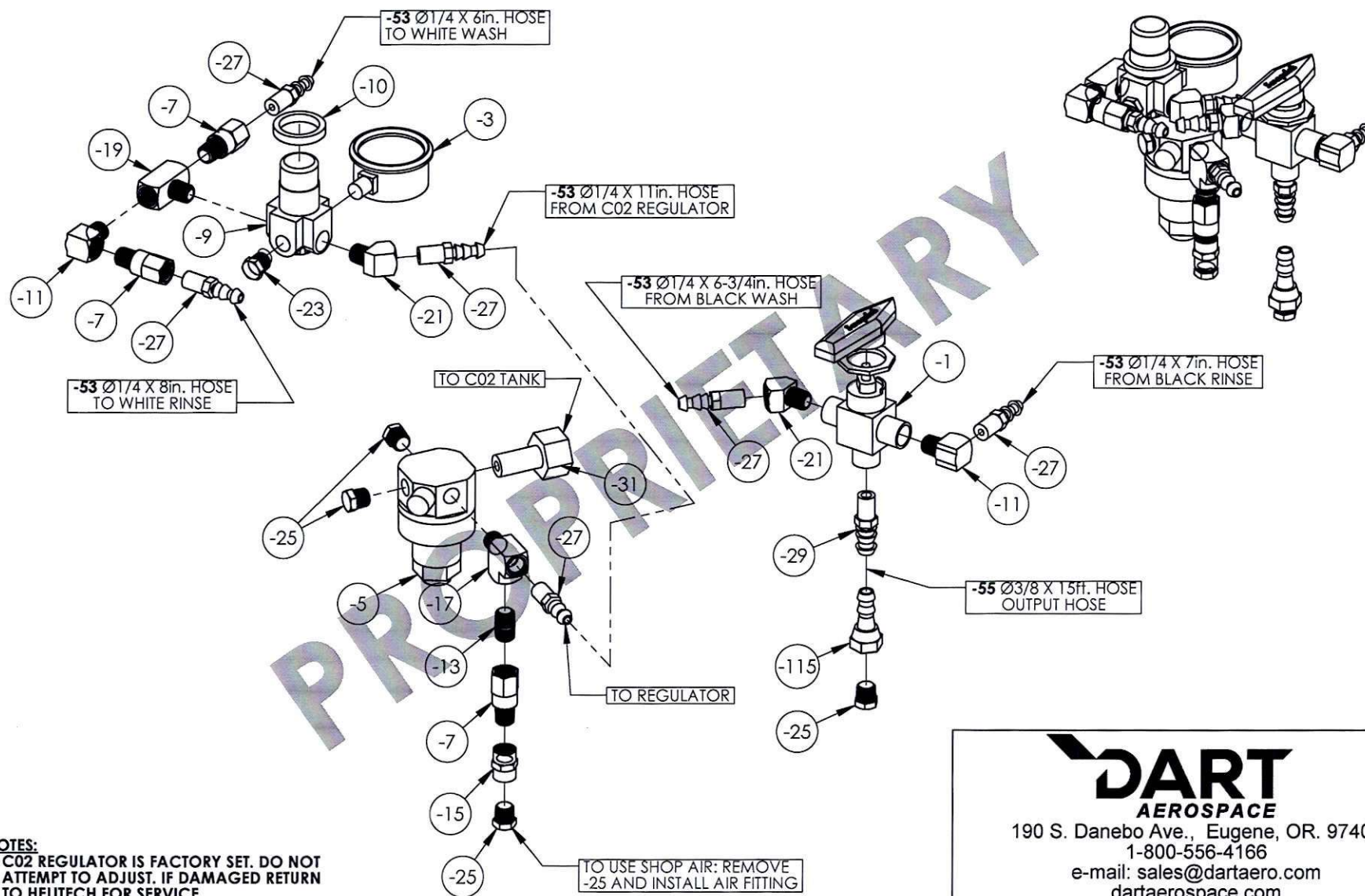
-1	1	BALL VALVE
-3	1	PRESSURE GAUGE
-5	1	GAS CYLINDER REGULATOR
-7	3	CHECK VALVE
-9	1	REGULATOR
-10	1	RING
-11	2	90° ELBOW
-13	1	CLOSE NIPPLE
-15	1	LIGHT COUPLING
-17	1	RUN TEE
-19	1	BRANCH TEE
-21	2	45° ELBOW
-23	1	PLUG
-25	4	PLUG
-27	6	PUSH LOCK FITTINGS
-29	1	PUSH LOCK FITTING
-31	1	CO2 INLET NIPPLE
-33	2	TANK CAP O-RINGS
-43	2	TANK W/FITTINGS
-45	2	WHITE QUICK DISCONNECT
-47	2	BLACK QUICK DISCONNECT
-53	1	Ø1/4 I.D. X 3-1/2 ft HOSE
-55	1	Ø3/8 I.D. X 15 ft HOSE
-57	1	CO2 TANK #5 EMPTY
-61	1	WELDED FRAME ASSY
-67	1	CONTROL PANEL PLAQUE
-68	1	LID ASSY
-73	2	TANK STRAP
-75	1	CO2 CYLINDER STRAP
-77	6	BARREL NUTS
-101	2	CHEST HANDLES
-103	2	TOP PULL LATCH
-105	4	PAN HEAD SCREWS
-107	2	PAN HEAD SCREWS
-109	7	PAN HEAD SCREWS
-111	8	FLAT HEAD SCREWS
-113	15	NYLON LOCK NUTS
-115	1	HOSE FITTING
-119	1	DART PLACARD
-121	1	RINSE LABEL
-123	1	WASH LABEL
-125	4	PAN HEAD SCREWS

DART
AEROSPACE

190 S. Danebo Ave., Eugene, OR. 97402
1-800-556-4166
e-mail: sales@dartaero.com
dartaerospace.com

TITLE			ENGINE WASHER	
DWG NO.	HT-300-CW	REV	6	CUSTOMER 1 OF 2
SCALE	1:6	DATE	10/15/2014	SHEET 28 OF 29

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NOTES:

1. CO2 REGULATOR IS FACTORY SET. DO NOT ATTEMPT TO ADJUST. IF DAMAGED RETURN TO HELITECH FOR SERVICE.
2. TO FILL CO2 BOTTLE, DISCONNECT -31 FROM TANK. LOOSEN TANK CLAMP AND TURN BOTTLE SO THAT THE NOZZLE FACES OUTWARD AND ATTACH ADAPTER. AFTER FILLING REVERSE PROCEDURE TO REATTACH TANK.

DART AEROSPACE 190 S. Danebo Ave., Eugene, OR. 97402 1-800-556-4166 e-mail: sales@dartaero.com dartaerospace.com		
TITLE ENGINE WASHER		
DWG NO. HT-300-CW	REV 6	CUSTOMER 2 OF 2
SCALE 1:4	DATE 10/15/2014	SHEET 29 OF 29